3/2/89

Shaughnessy Number: 113301

Date out of EFGWB: MAR - 2 1989

TO: L. Schnaunbelt
Product Manager 21
Registration Division (TS 767C)

FROM: Paul Mastradone, Ph.D.
Acting Chief, Review Section 1/EFGWB/HED (TS769-C)

THRU: Henry Jacoby, Acting Chief
Environmental Fate and Ground Water Branch/HED (TS 769C)

Attached, please find the review of...

Reg./File #: 7969-53

Chemical Name: Vinclozolin

Type Product: Fungicide

Company Name: BASF

Purpose: Data requirements for use on tomatoes and cucumbers.

Date Received 9/30/88 Action Code: 770

Date Completed: EFGWB #(s): 90032

Monitoring Study Requested: Total Reviewing Time: 1 Day

Monitoring Study Volunteered:

Deferrals to: ___Ecological Effects Branch

___Dietary Exposure Branch

___Toxicology Branch

1. CHEMICAL: Vinclozolin

2. TEST MATERIAL: N/A

3. STUDY/ACTION TYPE: Status of data requirements for use on tomatoes and cucumbers.

4. STUDY IDENTIFICATION: N/A.

5. REVIEWED BY:

Typed Name: A. ABRAMOVITCH, Ph.D.
Title: Chemist, Review Section 1
Organization: EFGWB/HED/OPP
Date: MAR - 2 1989
Signature: Hava Abramovitch

6. APPROVED BY:

Typed Name: P. MASTRADONE, Ph.D.
Title: Acting Chief, Review Section 1
Organization: EFGWB/HED/OPP
Date: MAR - 2 1989
Signature: Paul J. Mastradone

7. CONCLUSIONS:

The hydrolysis, photodegradation on soil and in water, aerobic and anaerobic soil metabolism, leaching, crop rotation and fish accumulation data requirements were satisfied as indicated in the EFGWB review of June 21, 1985. Field dissipation studies were conducted for strawberries-no field dissipations for tomatoes and cucumbers.

Vinclozolin does not accumulate in fish.
Vinclozolin was shown to accumulate in rotational crops and rotational restrictions were imposed for strawberries, etc.
Vinclozolin does not undergo significant degradation in sterile water of pH 3 but undergoes fast degradation at pH 6 and 9.
Vinclozolin underwent aerobic degradation in a loam soil of pH 7.4 with a half life of 3-4 days but was more stable in loamy sand of pH of 6.8 with a degradation half life of 3-7 weeks.
Degradation of vinclozolin in water and on soil was not enhanced significantly by exposure to simulated sunlight radiation via a sunlamp.
Kd values of 0.59 and 1.38 were obtained for loam and sand soils, respectively. Leaching of vinclozolin aged residues were greater than the parent vinclozolin.

8. RECOMMENDATIONS:

EFGWB recommends that field dissipation studies be conducted in acidic soils (pH 5.5-6) of the type used to grow tomatoes and cucumbers. The data summarized in the conclusions, above, suggest that vinclozolin is most stable in acidic soils, in water and is not susceptible to photodegradation. These studies should be completed and reviewed prior to registration on tomatoes and cucumbers. However, because available data does not appear to suggest a major leaching and persistence problem, EFGWB may concur with a conditional registration until the field studies are completed.

Crop rotation restrictions for tomatoes and cucumbers should be imposed. The field dissipation data will help in setting proper restrictions.

A note to the PM:

This review concerns only cucumbers and tomatoes and none of the other crops listed on the label.

9. BACKGROUND:

See EFGWB reviews of June 21, 1985.

10. DISCUSSION OF INDIVIDUAL TESTS OR STUDIES: N/A.

11. COMPLETION OF ONE-LINER: No data included in this submission.

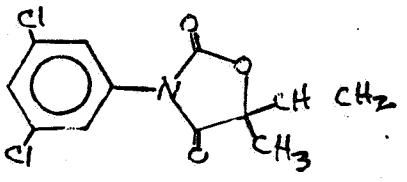
12. CBI APPENDIX: None.

1. CHEMICAL: Common Name- vinclozolin

Chemical Name- 3-(3,5-dichlorophenyl)-5-ethenyl-methyl-2,4-oxazolidinedione

Trade Name- Ronilan 50W

Chemical Structure-



2. TEST MATERIAL: Not applicable. No new data were submitted.

3. STUDY/ACTION TYPE: Request by the Department of Agriculture of the State of Washington for an Emergency Exemption (Section 18) to use vinclozolin to control white mold (Scerotinia sclerotiorum) on lima beans in Benton, Franklin, and Walla Walla counties. Two applications of one pound of Ronilan 50W each will be made about 7 to 10 days apart. They expect the maximum treated acreage will be 2,500 acres, giving 2,500 lbs ai maximum used. Supporting information is attached.

4. STUDY IDENTIFICATION: Not applicable. No new data were submitted.

5. REVIEWED BY:

Herbert L. Manning, Ph.D.
Microbiologist
EAB/HED

Signature: Herbert L. Manning
Date: 17 June 1985

6. APPROVED BY:

Samuel M. Creeger
Chief, Section 1
EAB/HED

Signature: Samuel M Creeger
Date: JUN 21 1985

7. CONCLUSIONS:

The environmental fate data in our files supports the use of this fungicide on lima beans. A brief summary of each of the data requirements is as follows:

- Hydrolysis- half-lives at 25°C and pH 9, 6, and 3 were 12 minutes, 61 hours, and 70 days, respectively.

(4)

- Photodegradation(aqueous)- buffered solutions at several pH values from 0 to 5 showed varying degrees of degradation. Greatest stability (near 100%) was at pH 2.0 over 23 days. Sensitized photolysis (1.8% acetone) at pH 2-3 gave half-life of 3.6-3.8 hours.

- Photodegradation(soil)- half-life on loamy sand soil was 19 days.

- Aerobic soil metabolism- half-life in loamy sand at pH 6.8 was 3-7 weeks; half-life in a loam soil at pH 7.4 was 3-4 days.

- Anaerobic soil metabolism- degradation is slower under anaerobic conditions than aerobic.

- Leaching- vinclozolin did not leach in a soil column; aged residues leached weakly.

- Soil field dissipation- Studies in CA, ND, and OR strawberry plots detected residues greater than 0.05 ppm only in the top 12 inches of soil. The ND plot gave a half-life of about one month.

- Rotational crop- an EAB review completed Jan 11, 1983 gave the rotational crop restrictions on the Ronilan label. A copy of this is attached to this review under the heading "Restrictions and Limitations for Strawberries."

- Fish accumulation- Bluegill Sunfish accumulated vinclozolin 100X in edible tissues, 320X in non-edible tissue, and 240X in whole fish. 97-98% depurated after 2 weeks.

8. RECOMMENDATIONS:

The data in EAB files supports the request for an Emergency Exemption (Section 18) to use vinclozolin on lima beans in Washington.

9. BACKGROUND:

A. Introduction

See Section 3 of this review.

B. Directions for Use

See attached information.

10. DISCUSSION OF INDIVIDUAL TESTS OR STUDIES:

A. Study Identification

Not applicable. No new data were submitted.

REGISTRATION DIVISION DATA REVIEW RECORD

Confidential Business Information – Does Not Contain National Security Information (E.O. 12065) 48529

1. CHEMICAL NAME: VINCLOZOLIN

2. IDENTIFYING NUMBER	3. ACTION CODE	4. ACCESSION NUMBER	TO BE COMPLETED BY PM
7969-53	330		5. RECORD NUMBER: 2 33 12
			6. REFERENCE NUMBER: 26
			7. DATE RECEIVED (EPA): 9/19
			8. STATUTORY DUE DATE:
			9. PRODUCT MANAGER (PM): 20
			10. PM TEAM NUMBER: 21

14. CHECK IF APPLICABLE

- ☐ Public Health/Quarantine
- ☐ Minor Use
- ☐ Substitute Chemical
- ☐ Part of IPM
- ☐ Seasonal Concern
- ☐ Review Requires Less Than 4 Hours

AHA

TO BE COMPLETED BY PCB

11. DATE SENT TO HED/TSS: 9-20-88

12. PRIORITY NUMBER: 50

13. PROJECTED RETURN DATE: 12-16-88

15. INSTRUCTIONS TO REVIEWER

A. HED
- ☐ Total Assessment - 3(c)(5)
- ☐ Incremental Risk Assessment - 3(c)(7) and/or E.L. Johnson memo of May 12, 1977.

B. SPRD (Send Copy of Form to SPRD PM)
- ☐ Chemical Undergoing Active RPAR Review
- ☐ Chemical Undergoing Active Registration Standards Review

C. ☐ BFSD

D. ☐ TSS/RD

E. ☐ Other

F. INSTRUCTIONS: Any problems with use on tomatoes and cucumbers

16. RELATED ACTIONS

17. 3(c)(1)(D)
- ☐ Use Any or All Available Information
- ☐ Use Only Attached Data
- ☐ Use Only the Attached Data for Formulation and Any or All Available Information on the Technical or Manufacturing Chemical.

18. REVIEWS SENT TO
- ☐ TB
- ☐ EEB
- ☐ EF
- ☐ PL
- ☐ RCB
- ☐ EFB
- ☐ CH
- ☐ BFSD

19. To	TYPE OF REVIEW	NUMBER OF ACTIONS: Registration	Petition	EUP	SLN	Sec. 18	Inert	MNR. USE	Other
HED	TOXICOLOGY								
HED	ECOLOGICAL EFFECTS								
HED	RESIDUE CHEMISTRY								
HED	ENVIRONMENTAL DATE								
	CHEMISTRY								
									(6)

22. ☐ Representative Labels Showing Accepted Uses Attached

23. Date Returned to [illegible] (to be completed by HSDB)

24. Provide an Original and 4 (four) Copies of This Completed Form for Each Branch Checked for Review.

PREVIOUS EDITIONS ARE OBSOLETE.